



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2011-1176; Directorate Identifier 2011-NE-35-AD; Amendment 39-16995; AD 2012-06-14]**

**RIN 2120-AA64**

**Airworthiness Directives; Pratt & Whitney (PW)Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for PW JT9D-7R4G2 and -7R4H1 turbofan engines. This AD was prompted by the determination that a new lower life limit for high-pressure turbine (HPT) 1st stage air seals, part number (P/N) 735907, is necessary. This AD establishes a new lower life limit for HPT 1st stage air seals, P/N 735907, and requires removing them from service using a drawdown schedule. We are issuing this AD to prevent critical life-limited rotating engine part failure and damage to the airplane.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket

Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Ian Dargin, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7178; fax: 781-238-7199; e-mail: [ian.dargin@faa.gov](mailto:ian.dargin@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM published in the Federal Register on November 23, 2011 (76 FR 72348). That NPRM proposed to require establishing a new lower life limit for HPT 1<sup>st</sup> stage air seals, P/N 735907, from 15,000 cycles-since-new (CSN) to 9,000 CSN and to require removing them from service using a drawdown schedule.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

### **Support for the NPRM as Written**

The Boeing Company and an individual commenter support the NPRM (76 FR 72348, November 23, 2011) as written.

### **Request to Revise Applicability**

Commenter PW requested that we revise the applicability and summary sections of the AD to limit applicability to only the PW JT9D-7R4G2 and -7R4H1 turbofan engine models. We agree. In addition to the JT9D-7R4G2 and -7R4H1 engines, the NPRM (76 FR 72348, November 23, 2011) incorrectly included JT9D-7R4D, -7R4D1,

-7R4E, -7R4E1 and -7R4E4 engine models. We changed the AD by limiting the applicability to only the PW JT9D-7R4G2 and -7R4H1 turbofan engine models.

### **Request to Revise Removal Limits**

Commenter Federal Express requested that different removal (drawdown) limits be specified for the JT9D-7R4E1 and -7R4E1H engine models, based on the life limits listed in chapter 05 of the PW engine manual.

We do not agree. We removed the JT9D-7R4E1 and -7R4E1H engine models from this AD in response to another comment. Therefore, the JT9D-7R4E1 and -7R4E1H engine models are no longer affected by this AD. However, as these air seals are installed on other engine models, we modified the installation prohibition paragraph to indicate that an air seal removed in accordance with this AD cannot be installed in any other engine. Further, we noted that all air seals identified in this AD, when used on the JT9D-7R4E1 and -7R4E1H engine models, have a 9,000 CSN life limit.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously.

### **Costs of Compliance**

We estimate that this AD will affect 28 Pratt & Whitney JT9D-7R4G2, and -7R4H1 turbofan engines installed on airplanes of U.S. registry. We also estimate that it will take 28.8 work-hours per engine to perform the actions required by this AD, and that the average labor rate is \$85 per work-hour. Required parts will cost about \$37,200 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$1,110,144.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-06-14 **Pratt & Whitney**: Amendment 39-16995; Docket No. FAA-2011-1176; Directorate Identifier 2011-NE-35-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Pratt & Whitney JT9D-7R4G2 and -7R4H1 turbofan engines.

#### **(d) Unsafe Condition**

This AD was prompted by the determination that a new lower life limit of 9,000 cycles-since-new (CSN) for high-pressure turbine (HPT) 1st stage air seals, part number (P/N) 735907, is necessary. We are issuing this AD to prevent critical life-limited rotating engine part failure, and damage to the airplane.

#### **(e) Compliance**

Comply with this AD within the compliance times specified, unless already done.

#### **(f) Removal of HPT 1st Stage Air Seals, P/N 735907**

Remove HPT 1st stage air seals, P/N 735907, from service as follows:

(1) For air seals that have fewer than 6,500 CSN on the effective date of this AD, remove the air seals from service before exceeding 9,000 CSN.

(2) For air seals that have 6,500 CSN or more on the effective date of this AD, do the following:

(i) If the engine has a shop visit before the air seal exceeds 9,000 CSN, remove the air seal from service before exceeding 9,000 CSN.

(ii) If the engine does not have a shop visit before the air seal exceeds 9,000 CSN, remove the air seal from service at the next shop visit, not to exceed 2,500 cycles from the effective date of this AD or 15,000 CSN, whichever occurs first.

**(g) Installation Prohibition**

(1) After the effective date of this AD, do not install or reinstall into any engine any HPT 1st stage air seal, P/N 735907, removed from service in accordance with paragraph (f) of this AD.

(2) After the effective date of this AD, do not install or reinstall into any JT9D-7R4G2 or JT9D-7R4H1 engine any HPT 1st stage air seal, P/N 735907, that exceeds the new life limit of 9,000 CSN.

**(h) Engine Shop Visit Definition**

For the purposes of this AD, an engine shop visit is the induction of an engine into the shop after the effective date of this AD, where the separation of a major engine flange occurs, except that the following maintenance actions, or any combination thereof, are not considered engine shop visits:

(1) Introduction of an engine into a shop solely for removal of the compressor top or bottom case for airfoil maintenance or variable stator vane bushing replacement.

(2) Introduction of an engine into a shop solely for removal or replacement of the stage 1 fan disk.

(3) Introduction of an engine into a shop solely for replacement of the turbine rear frame.

(4) Introduction of an engine into a shop solely for replacement of the accessory gearbox or transfer gearbox, or both.

(5) Introduction of an engine into a shop solely for replacement of the fan containment case.

**(i) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(j) Related Information**

For more information about this AD, contact Ian Dargin, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7178; fax: 781-238-7199; e-mail: [ian.dargin@faa.gov](mailto:ian.dargin@faa.gov).

**(k) Material Incorporated by Reference**

None.

Issued in Burlington, Massachusetts, on March 16, 2012.

Peter A. White,  
Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

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